



Transient Voltage Suppressors family

Transient Voltage Suppressor (TVS) will effectively limit the transient voltage to a safe level. The YSM8Wxxx series has been designed to protect sensitive automotive circuits against surges defined in ISO7637-2/ISO16750-2 and against electrostatic discharges according ISO10605. The YSM8Wxxx series device could compatible with high-end circuits where low leakage current and high junction temperature are required to provide reliability and stability over time.

Features

- High current capability
- Low Forward Voltage Drop
- Low reverse current
- Low thermal resistance
- Excellent high temperature stability
- Low power loss and high efficiency
- High forward surge capability
- Meets ISO7637-2 surge specification
- Meets ISO16750-2 surge specification
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C
- AEC-Q101 qualified

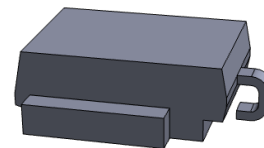
Application

- High peak power
- High-temperature
- Clamping diode
- Load switching and lighting

Mechanical Data

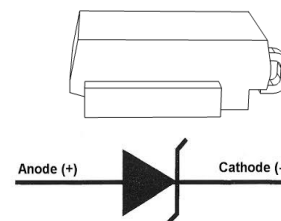
- **Case:** DO-218 outline plastic package
- **Terminals:** Matte tin plated, solderable per MIL-STD-750, Method 2026, J-STD-002 and JESD 22-B102
- Molding Compound Flammability Rating:UL94-0
- HE3 suffix meets JESD 201 class 2 whisker test
- **Polarity:** Heatsink is anode

DO-218

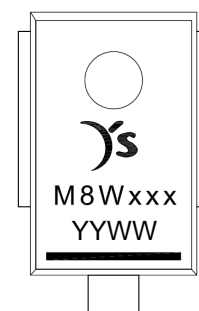


Pin Information

Polarity: Heatsink is anode



Marking Information



Primary Characteristics

VWM	10 to 43 V
VBR	11.1 to 52.8 V
PPPM (10 x 1000 uS)	6600 W
PPPM (10 x 10000 uS)	5200 W
P _D	8 W
IFSM	700 A
Polarity	Uni-directional
Diode variation	Single



Transient Voltage Suppressors

YSM8W Series

8 Watters TVS/Power Zener Diode

YEA SHIN TECHNOLOGY CO., LTD

Maximum Ratings (TA = 25 °C unless otherwise noted)

Parameter	Symbol	Value	Units
Peak pulse power dissipation	10/1000 μ s waveform	6600	W
	10/10 000 μ s waveform	5200	
Power dissipation on infinite heatsink at TC = 25 °C	PD	8.0	W
Peak forward surge current 8.3 ms single half sine-wave	IFSM	700	A
Operating junction and storage temperature range	TJ, TSTG	-55 to +175	°C

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	Breakdown Voltage VBR (V)		Test Current IT (mA)	Stand-OFF Voltage VWM (V)	Maximum Reverse Leakage at VWM ID (uA)	Maximum Leakage at VWM TJ = 175 °C ID (uA)	Max. Peak Pulse Current at 10/1000 us Waveform (A)	Maximum Clamping Voltage at IPPM Vc (V)
	Min.	Max.						
YSM8W10	11.1	13.6	5.0	10.0	15	250	351	18.8
YSM8W10A		12.3	5.0	10.0	15	250	388	17.0
YSM8W11	12.2	14.9	5.0	11.0	10	150	328	20.1
YSM8W11A		13.5	5.0	11.0	10	150	363	18.2
YSM8W12	13.3	16.3	5.0	12.0	10	150	300	22.0
YSM8W12A		14.7	5.0	12.0	10	150	332	19.9
YSM8W13	14.4	17.6	5.0	13.0	10	150	277	23.8
YSM8W13A		15.9	5.0	13.0	10	150	307	21.5
YSM8W14	15.6	19.1	5.0	14.0	10	150	256	25.8
YSM8W14A		17.2	5.0	14.0	10	150	284	23.2
YSM8W15	16.7	20.4	5.0	15.0	10	150	245	26.9
YSM8W15A		18.5	5.0	15.0	10	150	270	24.4
YSM8W16	17.8	21.8	5.0	16.0	10	150	229	28.8
YSM8W16A		19.7	5.0	16.0	10	150	254	26.0
YSM8W17	18.9	23.1	5.0	17.0	10	150	216	30.5
YSM8W17A		20.9	5.0	17.0	10	150	239	27.6
YSM8W18	20.0	24.4	5.0	18.0	10	150	205	32.2
YSM8W18A		22.1	5.0	18.0	10	150	226	29.2
YSM8W20	22.2	27.1	5.0	20.0	10	150	184	35.8
YSM8W20A		24.5	5.0	20.0	10	150	204	32.4
YSM8W22	24.4	29.8	5.0	22.0	10	150	168	39.4
YSM8W22A		26.9	5.0	22.0	10	150	186	35.5
YSM8W24	26.7	32.6	5.0	24.0	10	150	153	43.0
YSM8W24A		29.5	5.0	24.0	10	150	170	38.9
YSM8W26	28.9	35.3	5.0	26.0	10	150	142	46.6
YSM8W26A		31.9	5.0	26.0	10	150	157	42.1
YSM8W28	31.1	38.0	5.0	28.0	10	150	132	50.1
YSM8W28A		34.4	5.0	28.0	10	150	145	45.4
YSM8W30	33.3	40.7	5.0	30.0	10	150	123	53.5
YSM8W30A		36.8	5.0	30.0	10	150	136	48.4
YSM8W33	36.7	44.9	5.0	33.0	10	150	112	59.0
YSM8W33A		40.6	5.0	33.0	10	150	124	53.3
YSM8W36	40.0	48.9	5.0	36.0	10	150	103	64.3
YSM8W36A		44.2	5.0	36.0	10	150	114	58.1
YSM8W40	44.4	54.3	5.0	40.0	10	150	92.4	71.4
YSM8W40A		49.1	5.0	40.0	10	150	102	64.5
YSM8W43	47.8	58.4	5.0	43.0	10	150	86	76.7
YSM8W43A		52.8	5.0	43.0	10	150	95.1	69.4



Note: For all types maximum $V_F = 1.8\text{ V}$ at $I_F = 100\text{ A}$ measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Thermal Characteristics ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Typical thermal resistance, junction to case	$R_{\theta JC}$	0.90	$^\circ\text{C/W}$

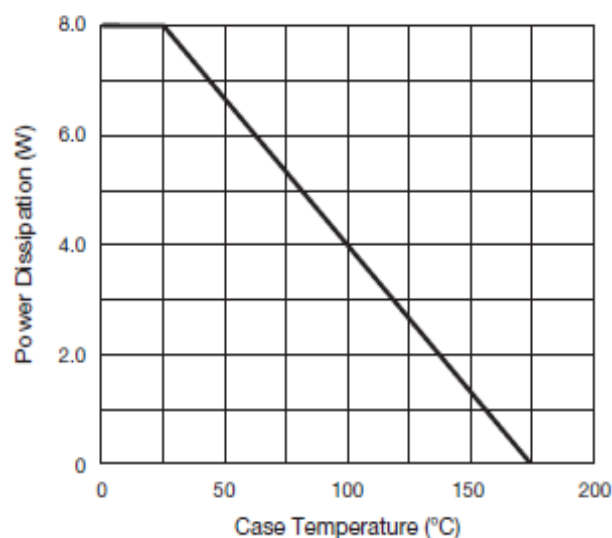
Typical Performance Characteristics

Fig. 1 - Power Derating Curve

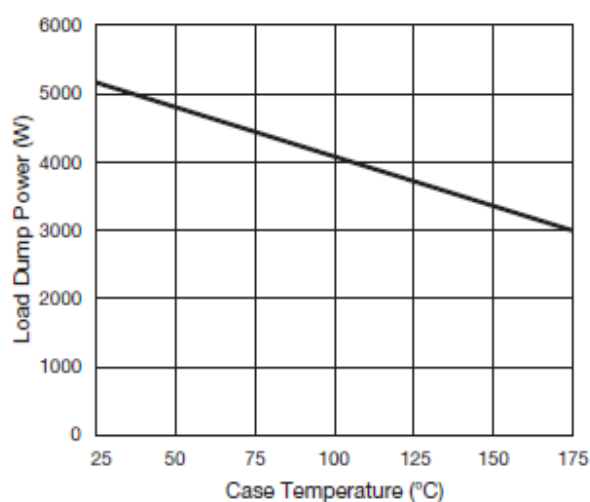
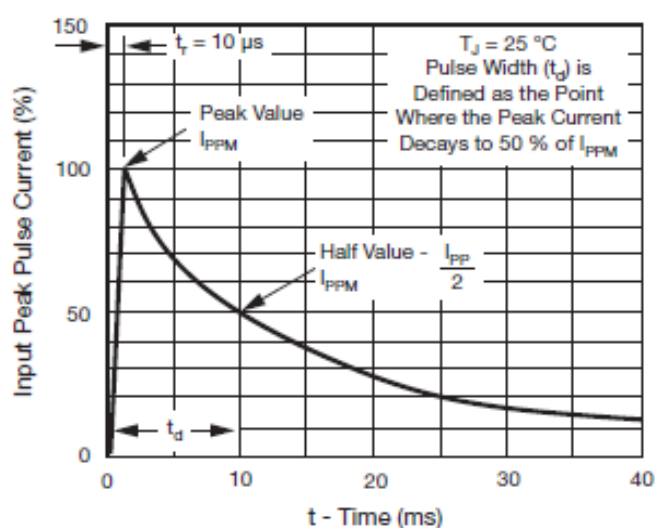
Fig. 2 - Load Dump Power Characteristics
(10 ms Exponential Waveform)

Fig. 3 - Pulse Waveform

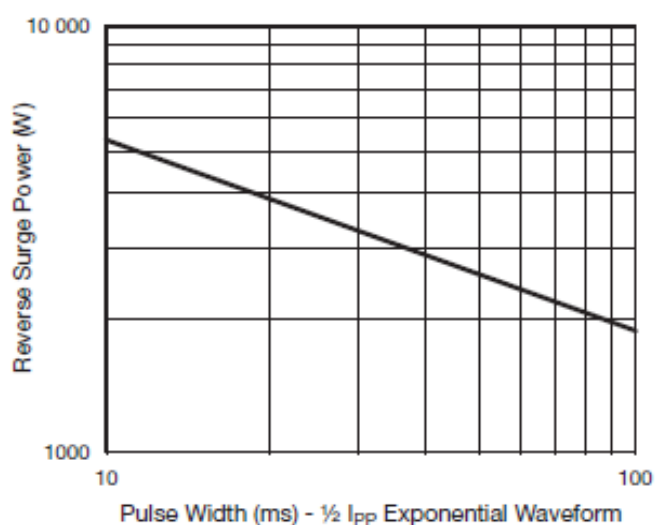


Fig. 4 - Reverse Power Capability

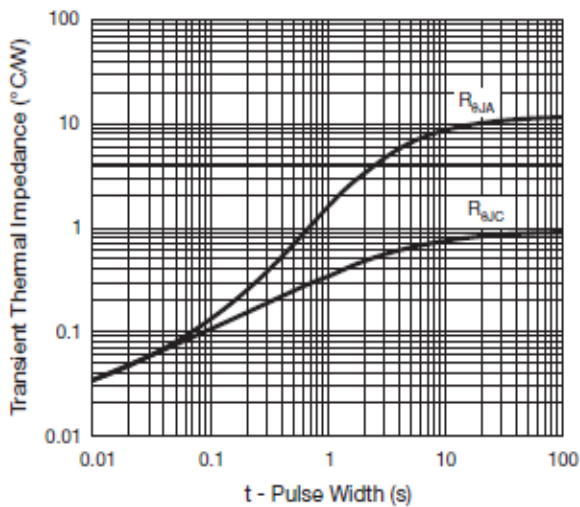


Fig. 5 - Typical Transient Thermal Impedance

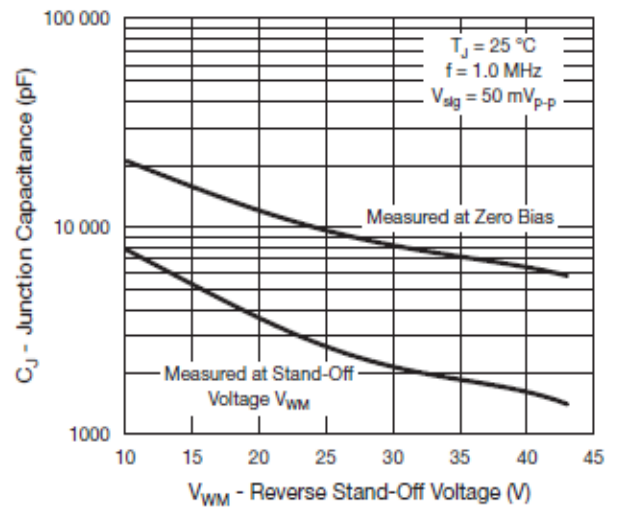


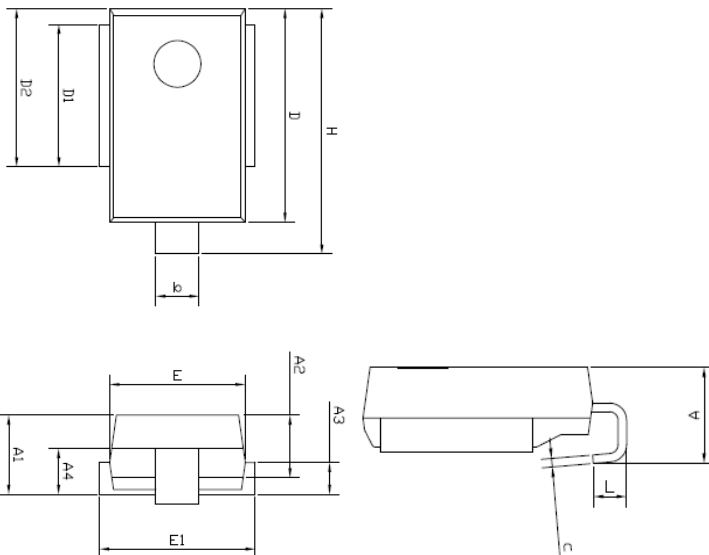
Fig. 6 - Typical Junction Capacitance

Physical Dimensions

DO-218

NOTE :

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS.
2. COPLANARITY : 0.1mm
3. DIMENSION L IS MEASURED IN GAUGE PLANE.



SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A	4.70	-	5.70
A1	4.70	5.00	5.25
A2	3.45	3.95	4.25
A3	1.70	2.00	2.50
A4	2.65	3.10	3.55
b	2.30	-	3.00
c	0.45	-	0.90
D	13.20	13.50	13.80
D1	8.70	9.00	9.30
D2	9.70	10.00	10.30
E	8.20	8.50	8.80
E1	9.50	-	10.00
H	15.00	15.50	16.00
L	1.50	2.00	2.50

Foot Print Recommendation (mm)

